

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): An apparatus comprising:
a differential preamplifier stage including a differential output;
a distributed differential amplifier stage including a differential end termination interface coupled to the differential output; and
a feedback element to manipulate a signal to be provided to the distributed differential amplifier stage.

Claim 2 (canceled)

Claim ²~~3~~ (original): The apparatus of claim 1, further including a bridging element coupled between a differential input of the distributed differential amplifier stage and a differential output of the distributed differential amplifier stage.

pn Claim ³~~4~~ (previously presented): The apparatus of claim ²~~3~~, wherein the bridging element comprises a transverse electromagnetic transmission line segment.

Claim ⁴~~5~~ (previously presented): The apparatus of claim 1, wherein the distributed differential amplifier stage comprises a first output transmission line and a second output transmission line and wherein the second output transmission line is differentially coupled to the first output transmission line.

Claim ⁵~~6~~ (original): The apparatus of claim ⁴~~5~~, wherein the first output transmission line and the second output transmission line are coupled by at least one passive element.

Claim ⁶~~7~~ (previously presented): The apparatus of claim 1, wherein the differential output comprises a first line and a second line and wherein the differential end termination interface comprises at least one passive element coupled between the first line and the second line of the differential output.

Claim ⁷~~8~~ (previously presented): An apparatus comprising:
a differential preamplifier stage coupled to a distributed differential amplifier stage, wherein the distributed differential amplifier stage includes a first output transmission line and a second output transmission line and wherein the first output transmission line is differentially coupled to the second output transmission line; and

a current source coupled between the first and second output transmission lines.

Claim ⁸~~9~~ (previously presented): The apparatus of claim ⁷~~8~~, wherein the distributed differential amplifier stage includes a differential end termination interface.

Claim ⁹~~10~~ (currently amended): The apparatus of claim ⁸~~9~~, wherein the differential end termination interface is to couple[[s]] a differential output of the differential preamplifier stage.

Claim ¹⁰~~11~~ (previously presented): An apparatus comprising:
a differential traveling wave amplifier including a differential input and a differential output, wherein the differential output includes first and second lines;
a current source coupled between the first and second lines of the differential output; and
at least one bridging element coupled between the differential input and the differential output.

Claim ¹¹~~12~~ (previously presented): The apparatus of claim ¹⁰~~11~~, further comprising a first transistor coupled to a first line of the differential input and a second transistor coupled to the first line of the differential output.

Claim ¹²~~13~~ (previously presented): The apparatus of claim ¹¹~~12~~, wherein at least one of the at least one bridging element is coupled between the first transistor and the second transistor.

Claim 14 (canceled)

Claim ¹³~~15~~ (original): The apparatus of claim ¹⁰~~11~~, further comprising at least one damping element coupled to the at least one bridging element.

Claim ¹⁴~~16~~ (currently amended): A system comprising:
a differential preamplifier stage including a differential output;
a distributed differential amplifier stage including a differential end termination interface coupled to the differential output, the differential end termination interface unconnected to a power supply or ground potential; and

an optical modulator to modulate a signal received from the distributed differential amplifier stage; and

an optical fiber coupled to the distributed differential amplifier stage optical modulator.

Claim 17 (cancel)

Claim ¹⁵~~18~~ (previously presented): The system of claim ¹⁴~~16~~, further comprising a feedback element to manipulate a signal to be provided to the distributed differential amplifier stage.

Claim ¹⁶~~19~~ (original): The system of claim ¹⁴~~16~~, further including a bridging element coupled between an input and an output of the distributed differential amplifier stage.

Claim ¹⁷~~20~~ (original): The system of claim ¹⁶~~19~~, wherein the bridging element comprises a transverse electromagnetic transmission line segment.

Claim ¹⁸~~21~~ (previously presented): The system of claim ¹⁴~~16~~, wherein the distributed differential amplifier stage includes first and second output transmission lines and wherein the first output transmission line of the distributed differential amplifier stage is differentially coupled to the second output transmission line of the distributed differential amplifier stage.

Claim ¹⁹~~22~~ (original): The system of claim ¹⁸~~21~~, further comprising an output differential end termination interface coupled to the first and second output transmission lines.

Claim ²⁰~~23~~ (currently amended): A method comprising:
terminating a differential output of a differential preamplifier stage via a differential end termination interface of a distributed differential amplifier stage; and
feeding back the differential output to manipulate the differential output; and
modulating an output signal of the distributed differential amplifier stage.

Claim 24 (canceled)

Claim ²¹~~25~~ (original): The method of claim ²⁰~~23~~, further including limiting an amplitude of the differential output.

Claim 26 (cancel)

Claim ²²~~27~~ (original): The method of claim ²⁰~~23~~, further including bridging an input line and an output line of the distributed differential amplifier stage with a transverse electromagnetic transmission line segment.

Claim 28-30 (canceled)

Claim ²³~~31~~ (previously presented): The method of claim ²⁰~~23~~, further including differentially coupling a first output transmission line and a second output transmission line of the distributed differential amplifier stage.